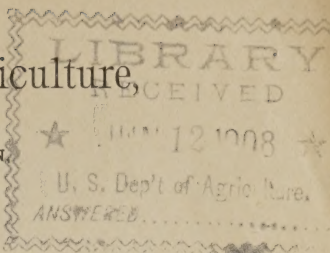


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United States Department of Agriculture,

BUREAU OF PLANT INDUSTRY,
FOREIGN SEED AND PLANT INTRODUCTION,
WASHINGTON, D. C.



CULTURAL DIRECTIONS FOR THE CAROB.

The carob, or St. John's bread (*Ceratonia siliqua* L.), is a handsome leguminous tree with evergreen, glossy, dark-green pinnate leaves. It grows well in the semiarid hills all around the Mediterranean and prefers limestone soils. The plant is sensitive to the cold and does not succeed north of the regions where oranges grow. It grows slowly, makes a round top, and attains a great size, bearing in great abundance large pods, chocolate colored when ripe, which contain a great deal of saccharine matter between the hard and indigestible seeds. Italian analyses show the pods to contain more than 40 per cent of sugar and some 8 per cent of protein, over 75 per cent of the total weight being digestible.

Carobs may be grown from seed, but improved varieties are best propagated by grafting or budding. This is best done in spring, but dormant buds may be inserted in autumn. The trees are difficult to transplant, and it is usually best to raise seedlings and graft them where the tree is to stand. The beans should be soaked for four days before sowing and are best planted from 20 to 45 feet apart. If not sown in position, they had best be potted at the end of the first year, and ultimately the pots can be set where desired without danger of loss. If planted on a hillside, it is usually necessary to build a rampart of stones in the shape of a crescent on the lower side of the trees to prevent them from being washed away.

In Italy it is claimed to be best to allow the plants to attain a strong growth before attempting to graft them, this being done usually in the third year from seed. The carob bears the staminate and carpellate flowers on different trees, and it is necessary in order to insure a crop of pods to have a considerable proportion of staminate trees in the plantation. Another method of securing fertilization of the flowers is to graft branches of a staminate tree on the ordinary carob. The tree begins to produce three years after being grafted and in six years should produce about 100 pounds of pods to the tree. When in full bearing each tree produces from 400 to 600 pounds. The unusually large trees may reach a height of 60 feet, having a crown 75 feet in diameter, and may produce as high as 3,000 pounds of pods.

The great carob-growing regions of the Old World are along the Adriatic coast of southern Italy, Sicily, the southern half of Sardinia, and Cyprus. Carobs are, however, produced all along the Mediterranean Sea. The single province of Syracuse exports no less than 25,000 tons annually, worth more than \$250,000, while the total production for the island of Sicily averages about 90,000 tons a year.

The carob is a concentrated food for horses, milch cows, and for fattening stock. To a certain extent it replaces oats for horse feed, but it must always be fed with some more bulky fodder. It has been suggested that it might be very useful in some arid regions to feed it with the thornless cactus.

Sirups and various sweetmeats are sometimes prepared from carob pods, and the pods are offered for sale in America, to be eaten from the hand.

Doctor Francéschi, Santa Barbara, Cal., states that the carob tree was introduced into southern California many years ago. He says that specimens are to be seen in different places growing much more rapidly than in their native habitat and some of them bearing very profusely. He adds that it is the first tree to get established on the lava about Vesuvius and Etna after the American cactus (*Opuntia ficus indica*) has first broken the way. It should be remembered that this tree belongs to the Leguminosæ and, like the clovers, vetches, and other plants of this family, is able to draw its nitrogen largely from the air through the bacteria which grow in tubercles on the roots. It should certainly be tested in all parts of the Southwest where the mesquite is of importance as food for cattle, since the carob belongs to the same family and produces pods containing much more digestible material.

The price paid for imported carob pods ranges from \$40 to \$50 a ton delivered in Chicago; hence, taking into consideration the enormous yields of this tree, carob raising should promise to become a profitable industry in this country.

Carob seedlings are being sent out with a view to determine the sections best adapted to the plant and also to furnish stocks upon which better varieties may be grafted.

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